Public appendix report

A connected car service for small and medium enterprises
## Appendix content

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A. Project brief

IDE Master Graduation
Project team, Procedural checks and personal Project brief

This document contains the agreements made between student and supervisory team about the student's IDE Master Graduation Project. This document can also include the involvement of an external organization, however, it does not cover any legal employment relationship that the student and the client (IEG) agree upon. Next to that, this document facilitates the required procedural checks. In this document:

- The student delivers the team what he/she is going to deliver and how that will come about.
- SSC & ESA (Shared Service Center, Education & Student Affairs) reports on the student's registration and study progress.
- IDE Board of Examiners confirm if the student is allowed to start the Graduation Project.

1. IDE Master Graduation Project Brief

2. Project Team

3. Procedural Checks

4. IDE Master Graduation Project Brief

5. Student Data & Master Programme

6. Supervisory Team

7. Approval Project Brief

8. Check Study Progress

9. Formal Approval Graduation Project

10. IDE TU Delft - ESA Experiment // Graduation project brief & study overview // 2018-01 v30

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Introduction

This graduation project aims to develop a connected car product for small and medium enterprises (SME). The client who gave this assignment is the Royal Dutch Touring Club ANWB. The development of this product will be done using a user-centered approach.

ANWB

The Royal Dutch Touring Club ANWB was founded 135 years ago and currently has more than 4.5 million members in the Netherlands. The ANWB operates in a lot of different fields and has many activities, the central mission of the ANWB is: "The ANWB wants to facilitate people to move and travel freely and enjoyably." Dutch: "De ANWB maakt het leven van mensen makkelijker om te reizen." One of the most commonly known products of the ANWB is the roadside assistance (Wegnacht), but the ANWB is active and has a lot of different products and services in the mobility, vacation and leisure sectors.

ANWB Business

The ANWB also operates in the B2B market where they offer their roadside assistance, digital parking and fuel card services to other companies. The ANWB makes a distinction between SME (small and medium enterprises) and large enterprises. Where large enterprises get custom products, SME get predefined products. It is important to note that the ANWB categorizes the size of enterprises based on the number of vehicles an enterprise has, if that number is larger than 20 it is a large enterprise, while less than 20 vehicles means that the enterprise falls within the SME market.

ANWB Connected

One of the products that is sold on the B2C market is ANWB Connected. Connected consist of a dongle, that can be plugged into the OBD port of all cars older than 2006, to connect your car with the internet. In the Connected app you can then see the current location of your car, your eco-score, trouble codes, all your recent trips, battery status, mileage and your scores compared to other drivers.

Opportunities

The ANWB is currently exploring the opportunities to implement ANWB Connected into the SME market. Possible functionalities of this product for the market can be automated trip registration that is required for taxes, automated and predictive roadside assistance, increasing fuel efficiency, increasing safe driving behaviour. However, all these mentioned features are currently based on the technical possibilities of the system, and not on the actual needs and wishes of the end users, being the enterprise owners and drivers themselves.

Stakeholders

All stakeholders involved are:
- ANWB – as the provider of the new service
- Small and medium enterprises (with max 20 vehicles) – as customers (and users) of the service
- Employees of the SME’s – as end users of the service
- Car manufacturers – who provide the vehicles (and in some cases already have their own connectivity network)
- The government – making legislation about car connectivity

Title of Project: Connected car service for small and medium enterprises
**Personal Project Brief**

**TUDelft**

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**PROBLEM DEFINITION**

Limit and define the scope and solution space of your project to one that is manageable within one Master Graduation Project of 30 ECTS or 12 50-hour weeks. 100 working days. Identify what issues need to be addressed in this project.

How can the ANWB support Small and Medium Enterprises (SME) with a connected car service?

It is expected that the ANWB can help drivers of a company car and the people responsible for those cars with a company car or product that can register trips, locate cars and prevent car trouble, to improve the efficiency of daily tasks and prevent car trouble.

To be able to design and develop such a product-service combination, the needs and wishes of both the drivers and the responsible employees need to be identified.

**TARGET GROUP**

- The characteristics of the enterprises within the target group can be summed up as follows:
  - Small and Medium Enterprises (SME) or Freelance workers ("Zaak") (40%) and respectively 60% of the current ANWB customers
  - A fleet with a maximum of 30 vehicles owned by the company (in most cases 1-4 vehicles)
  - All sections (both blue and white collar)
  - In the Netherlands

As mentioned above these companies-typically of types of people can be found: drivers and responsible employees (fleet owner). The needs and wishes of both these people need to be identified to design a fitting solution.

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**ASSIGNMENT**

State in 2/3 sentences what you are going to research, design, create and/or generate. You will take part of the amount pointed out as a "general definition" (that indicates this assignment by indicating what kind of project you expect and/or aim to design, for instance: a product, an interaction, a service, a combination, a strategy, a product-service combination, a strategy illustrated through a product, product-service combination ideas, ...). In what area of expertise you are researching, make sure the assignment reflects this.

Research what the needs, wishes, pain and frustrations are of drivers of and the employees responsible for company vehicles, to create journey maps and personas. Use the insights, journey maps and personas to design a validated "user-centred connected car product-service combination".

By doing design research journey maps and personas will facilitate a user-centred design process. The goal is to find opportunities for the existing ANWB Connected product within the SME market. Connected car is already a product-service combination. It is expected that the result of this project might be an app in which you can see information about your car, trips and driving behaviour. Smart roadside assistance is currently being researched and developed by the ANWB and might also be a part of this product-service combination. The connected device/truck that connects to the vehicles already exists, and will not be redesigned.

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**PLANNING AND APPROACH**

Include a Gantt Chart (as per the example below, more examples can be found in Manual 2) that shows the different phases of your project, deliverables, milestones, events, meetings, and how you plan to spend your time. Please note that all activities should fit within the given time limit (30 ECTS = 12 weeks or 100 working days). Your planning should include a kick-off meeting (including research, green light meeting and graduation ceremony). Illustrate your Gantt Chart by, for instance, explaining your approach, and please indicate periods of remaining projects and/or periods of not spending time on your graduation project. If any, for instance, because of holidays or parallel activities.

| Start Date | 26.7.2019 | End Date | 30.7.2019 |

**PLANNING**

In previous projects I have experienced that deadlines push me in delivering good results. Therefore I will divide my project into shorter sprints of two weeks. Each sprint has a specific topic and goal. At the end of a two week sprint clear deliverables and results need to be ready.

The following days I will not be working on my project:

- Vacation 25/5 – 26/5 (full week)
- Good Friday 19/4
- Easter 22/4
- Ascension Day 20/5 and 21/5
- Pentecost 10/6

This adds 30 days to the overall timespan of the project. Because the kick-off meeting takes place on a Tuesday the graduation ceremony will take place in the 23rd week of the project.

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IDE TU Delft - ESA Department // Graduation project brief & study overview // 2018-01-00

Initials & Name: T.R. van Met - Student number: 4271580

Title of Project: Connected Car Service for small and medium enterprises
**Personal Project Brief**

**IDE Master Graduation**

**MOTIVATION AND PERSONAL AMBITIONS**

Explain why you set up this project, what competencies you want to prove and learn. For example, acquired competencies from your MSc programme, the technical problem, etc. Clarify activities you intend and point out the competencies you have yet developed.

Optionally, describe which personal learning ambitions you explicitly want to address in this project or top of the learning objectives of the Evaluation Project, such as: in-depth knowledge in a specific subject, broadening your competencies in experimenting with a specific tool and/or methodology...

My personal goal for my graduation project is: “With my graduation project I want to have a positive impact on people’s lives.” For me personally this means that I want to always have the end-user central in the design process, but this also means that the work I will do during this project will actually have an effect on their lives. So I want to do everything within my power to also listen to the internal stakeholders at the ANWB so I know what they need or want to actually act upon my findings and results.

In the elective course Context Mapping Skills, I learned a lot about doing context research into the needs and wishes of companies and its employees. It is important to know what you are researching, the employees needs or the companies needs. It is not only difficult to find the needs of both, but also for an employer it is hard to tell both his needs and those of the company he/she is working for because these might be intertwined.

During my internship I have learned a lot about doing user research, mostly usability test of digital products. I want to use these skills both during the context research as well as in the evaluation research.

**FINAL COMMENTS**

Include any project brief needs final comments, please add any information you think is relevant.

IDE TU Delft - ESA Department | Graduation project brief & study overview | 2018-01-x30

Initi & Name: J.V.H. van der Meij

Title of Project: Connected Car Service for Small and Medium Enterprises

Student number: 4271380
Interview script

Persoonlijke introductie 5 min
→ Tijn van Vliet
→ Student Technische Universiteit Delft
→ Interview onderdeel van afstudeeropdracht voor de ANWB

Introductie
Voordat ik begin met het interview vertel ik de respondent:
→ Dat zij niet beoordeeld of getest worden en dus ook niks fout kunnen doen of zeggen.
→ Dat ik opzoek ben naar hun behoeften en gedachten en dat ze dus alles mogen zeggen wat ze willen zeggen.
→ Het interview opgenomen wordt en dat de beelden alleen voor onderzoeksdoeleinden binnen de TU Delft en ANWB gebruikt kunnen worden.

Tekenen opname verklaring
→ Ik start nu de opnamen

Achtergrond van de respondent 5 min
Kun je kort vertellen wat je in het dagelijkse leven zoal doet?

Wat voor werk doe je?

Rol van het voertuig 5 min
Je hebt een auto van het werk, waar gebruik je die voor?
→ Waar wordt de auto/bestelwagen nog meer voor gebruikt?
   ○ Privé / vakantie / etc.
→ Wat is de rol en het belang van het voertuig
→ Wat gebeurt wanneer het voertuig niet beschikbaar is

Timeline - autorit 15 min
Ik heb hier een tijdlijn, stickers, pennen en stiften. En ik zou je willen vragen om een van je laatste auto ritten te beschrijven. Dus van voordat je in de auto stapte totdat je aankwam op locatie.
→ Voorbereidingen voor vertrek  
→ Instappen  
→ Rijden  
→ Uitstappen  
→ Na aankomst

Ik heb hier een aantal groene en rode stickers, zou je hiermee kunnen aangeven wat positieve en negatieve momenten in je autorit zijn?

Kun je meer vertellen waarom deze momenten positief of negatief zijn?

**Timeline – autoleven**  
10 min

Net hadden we het over één autorit, maar ik ben nu benieuwd naar het hele ‘leven’ van jouw auto. Hoe lang rijdt je al in deze auto/bestelwagen?

→ Aanschaf  
  o Waarom en hoe gekozen voor dit voertuig?  
  o Wat is belangrijk bij de aanschaf?  
  o Wat is de aanleiding om voor een nieuw voertuig te kiezen?  
→ Administratie  
  o Ritregistratie  
→ Onderhoud  
→ Pech  
  o Wat was er aan de hand?  
  o Wat heb je toen gedaan?
→ Dashboard lampjes  
→ Verkoop/aanschaf

Ook hier ben ik benieuwd wat positieve en negatieve momenten zijn, zou je dat noogmaals willen aangeven met deze rode en groene stickers?

Kun je meer vertellen waarom deze momenten positief of negatief zijn?

**Informatie over de auto**  
10 min

Je auto staat nu buiten, en wij zitten hier binnen. Stel je kunt alle informatie over je auto nu inzien, welke informatie zou je dan willen hebben? Ik heb hier kaartjes waarop we ze kunnen schrijven.

Ik heb hier ook nog wat ander kaartjes met functionaliteiten die je eventueel zouden kunnen helpen. Ik ben benieuwd wat je van ze vindt.

Van alle kaartjes die hier nu voor je liggen, welke zouden jouw het meeste helpen?

**ANWB Connected**  
5 min

Heb je wel eens gehoord van ANWB Connected?


Wat is je eerste indruk van ANWB Connected?

Zou dit jou op enige wijze kunnen helpen?

**Privacy**

Stel jouw werkgever kan al deze informatie inzien, wat zou je daar van vinden?

Wat zou je werkgever wel mogen zien?

**Afronding**  
5 min

Ik ben door mijn vragen heen, heb jij nog iets wat je wil vertellen. Of zijn er nog vragen die je had verwacht dat ik zou stellen, maar niet gesteld heb?

Met mijn afstudeerproject ga ik aan de slag om een Connected car product, iets zoals je net hebt gezien, maken voor zakelijkerijders. Heb je een gouden tip voor mij voor wat ik sowieso in de app moet doen.
I. Timeline tool

These timelines were used during the interviews. They were both printed on a sheet of A3 paper.
J. Trigger set

This is the trigger set used in combination with the timelines. They were both printed on A4 sticker sheets, each picture was a separate sticker.
# K. Card sorting tool

<table>
<thead>
<tr>
<th>Feature</th>
<th>Feature</th>
<th>Feature</th>
<th>Feature</th>
<th>Feature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bij pech met één klik de gegevens van jouw auto en functioneren delen</td>
<td>(Video)bellen met een ervaren monteur</td>
<td>Automatische ongevaldetectie</td>
<td>Jaarlijks een gratis en vrijblijvende autocheck</td>
<td>Persoonlijk advies voor onderhoud op basis van autodata</td>
</tr>
<tr>
<td>Pech voorspelling</td>
<td>Team van experts voor specifiek advies</td>
<td>Doe-het-zelf videos en klustips door onze monteurs</td>
<td>Reparatie kostenoverzicht</td>
<td>Tips om je de levensverwachting van je auto te verhogen</td>
</tr>
<tr>
<td>Hulpdiensten nemen direct contact met jou op</td>
<td>Makkelijk schade melden via het mobiele schadeformulier</td>
<td>Autopaspoort met onderhoudsinformatie en afspraken</td>
<td>Real-time statusinformatie van je auto vanuit de dongel</td>
<td>Kilometer registratie</td>
</tr>
<tr>
<td>Geschatte onderhoudskosten op lange termijn</td>
<td>ANWB kwaliteitsgarantie</td>
<td>Inzicht in rijgedrag</td>
<td>Reminders voor belangrijke afspraken</td>
<td>Inzicht in toekomstig onderhoud</td>
</tr>
</tbody>
</table>
L. Card sorting results

The order of the cards is based only on the amount of times respondents placed the card in their selection. It is not based on the hierarchy they gave to the cards. Due to the qualitative character of the method no conclusions can be drawn based only on this order, the results should always be seen in connection to the quotes.

The cards were in Dutch, therefore they will be presented here in Dutch.

**Automatische ongeval detective**
*Automatic accident detection*
No conclusions were drawn from the feedback.

**Bij pech met één klik de gegevens van jouw auto en functioneren delen**
*Sharing your vehicle data with one click at a vehicle breakdown*
- Sharing data could speed up the process of resolving vehicle breakdown. Resolving these problems quicker and easier is interesting for most respondents.

**Pech voorspelling**
*Breakdown prediction*
- Breakdown prediction is generally seen as useful;
- Breakdown prediction is often linked to other “functions” such as the maintenance overview and status update;
- Some respondents indicate that the sensors on which these predictions is based are not reliable.

**Real-time statusinformatie van je auto vanuit de dongel**
*Real-time status information from your vehicle via a dongle*
- Real-time status information is sometimes seen as part of other functions or to support those functions;
- There is skepticism about reading this information on a smartphone, because most information can already be seen on the vehicle’s dashboard.

**Makkelijk schade melden via het mobiele schadeformulier**
- In most cases, a digital claim form is seen as a way to prevent hassle;
- Digitally reporting damage via a smartphone is considered to be very valuable. It solves multiple problems: you do not always need to have the physical forms, everyone fills in the same information, no hassle with loose papers and you can possibly add dashcam footage.

**{(Video)bellen met een ervaren monteur**
*{(Video)call with an experienced vehicle mechanic*
- Video calling enables people to solve small problems themselves immediately, and to be able to continue quickly.

**Tips om je de levensverwachting van je auto te verhogen**
*Tips to increase the life expectancy of your car*
- The life expectancy of a lease car is completely irrelevant for the driver;
- Tips are relevant for vehicle owners, although some respondents have doubts about the extent to which they will follow the advice.

**Inzicht in toekomstig onderhoud**
*Insight in future maintenance*
Insight into future maintenance can help to plan and schedule maintenance appointments better, and possibly combine appointments; it is also necessary to know which parts need to be replaced, and which maintenance is required.

**ANWB kwaliteitsgarantie**

ANWB quality guarantee

No conclusions were drawn from the feedback.

**Reminders voor belangrijke afspraken**

Reminder for important appointments

- Respondents expect these reminders to show the same information as the insight in future maintenance;
- Some respondents cluster the technical cards, and expect it to tell them what is going on with their vehicle and how to deal with it. This could indicate that people want to spend as little time as possible on the car in order to use time more efficiently.

**Persoonlijk advies voor onderhoud op basis van autodata**

Personal maintenance advice based on vehicle data

- The personal advice is also seen as a result that comes from the complete technical overview of the car

**Jaarlijks een gratis en vrijblijvende autocheck**

Annually a free and non-binding car check

No conclusions were drawn from the feedback.

**Autopaspoort met onderhoudsinformatie en afspraken**

Car passport with maintenance information and appointments

- A maintenance passport is most relevant when purchasing a second-hand vehicle.

**Inzicht in rijgedrag**

Insight in driving behaviour

- Some of the respondents indicate that they will not change their driving behavior;
- Some respondents see driving behavior as their “movement in traffic”;
- There is no clarity about exactly what employers want to know about their employees (what is more important privacy or economical driving).

**Kilometer registratie**

Trip logging

- Most respondents do not need a trip log, and find it nonsense or indicate that it is too much hassle to do.

**Doe-het-zelf video’s en klustips door onze monteurs**

Do-it-yourself videos and tips by our vehicle mechanics

- DIY tips can be useful, but it depends on the maintenance approach of the driver and the company.

**Hulpdiensten nemen direct contact met jou op**

Emergency services will contact you directly

- Some respondents indicate that they can contact emergency services themselves and therefore do not need support in this.

**Reparatie kostenoverzicht**

Repair cost overview

- A repair costs overview is interesting for some respondents to gain insight into what a repair costs. And in order to weigh different options: garage choice, repair it yourself, vehicle replacement, etc.;
- For many drivers it is not interesting to see repair costs, because
they are not financially responsible for the vehicle;
• Respondents who are financially responsible indicate that whenever they want to see a financial overview, they take a look in their invoices.

Geschatte onderhoudskosten op lange termijn
*Estimated maintenance costs in the long term*
No conclusions were drawn from the feedback.
M. Connected screenshots

Home

Ritten

Locatie

Eco score

Auto status

- Eco score
  - Lastie 7-dagen: 78
-oor
- Den hoog naar Leiden: 85
- Den hoog naar Hoofddorpsweg: 80
- Vlucht naar Leiden: 80
- Vlucht naar Hoofddorpsweg: 76
- Vlucht naar Vlucht: 77
- Vlucht naar Vlucht: 76

- Gistere
- Den hoog naar Leiden: 1,8 km - 23 min
- Den hoog naar Hoofddorpsweg: 1,8 km - 23 min
- Leiden naar Vlucht: 1,8 km - 23 min
- Vlucht naar Vlucht: 1,8 km - 23 min

- Eco score per dag
  - 7-dagen

- Auto status
  - Accustatus: Goed
  - Accuspaning: Onderweg

- Storagecodes
  - Storagecodes: Geen

- Accuinfo
  - Accuinfo: Geen

- Accuinfo
  - Accuinfo: Geen

- Storagecodes
  - Storagecodes: Geen
N. Connected feedback

Ritten
Trip overview
• Some respondents indicate that they are not interested in having a trip overview;
• Some respondents would like to use this overview when sending invoices to their clients;
• Some indicate that this information should not be visible to their boss.

Locatie
Location
• Some respondents (that are responsible for a small fleet) want to see the location of their employees. But others indicate that this information is not intended for their employer;
• Navigating to the parking location of the car is only relevant in a few occasions;
• Some people see potential in theft protection.

Eco score
• In general, people are not interested in their ‘eco score’, but they do consider fuel consumption and costs to be more relevant;
• The competition element is interesting for people with colleagues, although there were doubts: Does their boss see it? Is there an incentive? How similar are the scores of different types of vehicles? Will it be fun in the long term?

Auto status

Accu status
Battery status
• Most respondents want their car to be in good condition, but the importance of the battery is not clear for everyone.

Storingscodes
Diagnostic trouble codes
• There is doubt about the usefulness “when you already see it on the dashboard”;
• Some respondents expect urgency, explanation and an approach when a warning light comes on.

Kilometer stand
Mileage
• The mileage is relevant for very few respondents

Mobiel parkeren
Mobile parking payment
• Some people wonder why parking apps do not automatically stop their transaction, as they should be able to recognize that you are driving;
• Others indicate that they already have a parking provider and want to connect that service to the app.

Betalingsbereidheid
Willingness to pay
• It is not possible to draw conclusions about the willingness to pay, a few people have 20 euros to check on their employees, but a freelancer has 0 euros left for a product that does not add much value.
O. Findings

In this section all insights gathered from the contextual part of the research are captured. The insights are ranked on priority for the respondents and the potential for Connected. Insights with the highest potential are shown first. The key insights are left out of this appendix, and can be found in the main report.

Some deciders would like to see where their employees are, and other deciders don’t want to know or think they might not know where their employees are. For many drivers it would hold them back in using connected if their employer knows where they are, especially when driving private kilometres.

Concerns: Small and Medium Enterprises

Priority: Medium
Connected potential: High

Maintenance is (in most cases) only planned after a notification has been send (on dashboard, from lease company, fleet manager, dealer or the RDW sending a letter).

Concerns: Drivers

Priority: Medium
Connected potential: Medium

For many drivers the company vehicle is (or is experienced as) essential for the job, and in some cases the vehicle needs to be available 24/7.

Concerns: Drivers

Priority: Medium
Connected potential: Medium

Drivers have the need for a quick check to see whether the vehicle is still okay.

Concerns: Drivers

Priority: Medium
Connected potential: High

When mobile parking is used, some drivers actively need to think about de-activating.

Concerns: Drivers

Priority: Medium
Connected potential: High

For some drivers getting petrol could be easier. Some postpone getting petrol and others would like to be notified in advance of a trip that they need extra time for getting petrol.

Concerns: Drivers

Priority: Medium
Connected potential: High

Drivers with a fuel card always have to put in their current mileage, which is experienced as an inconvenience.

Concerns: Drivers

Priority: Medium
Connected potential: High

Almost all drivers pay ‘bijtelling’ [= addition], because they drive more than 500 private km per year or because they do not want to go through the hassle of trip registration. However, some of the respondents would be interested in knowing how many kilometres were driven for a certain client.

Concerns: Everyone

Priority: Medium
Connected potential: High
Some note that the technology (sensors inside the vehicle) needed to make Connected work can also fail.  

**Concerns: Everyone**  
Priority **Medium**  
Connected potential **High**

Some drivers would like to be notified in case of car theft.  

**Concerns: Everyone**  
Priority **Low**  
Connected potential **High**

A lot of services that Connected can help drivers with already exist and are free of charge. Connected is replicable.  

**Concerns: Everyone**  
Priority **Medium**  
Connected potential **Medium**

When a driver gets a fine, the decider might have to send that fine to the responsible driver, this might be hard if it is not clear who was driving at that moment.  

**Concerns: Small and Medium Enterprises**  
Priority **Medium**  
Connected potential **Medium**

Navigation is used for different goals and in different ways:  
1. Many drivers use their navigation as a traffic jam prediction and avoidance system;  
2. Other drivers use navigation for wayfinding;  
3. Some drivers are well known with routes and locations and only use navigation only to know where the exact destination is.  
For many drivers (not bound to one of the previously named groups) use their smartphone for navigation because the build in system is not good enough.  

**Concerns: Drivers**  
Priority **Medium**  
Connected potential **Medium**

Drivers deal with traffic jams in different ways:  
1. Actively try to avoid traffic jams with apps such as google maps and Waze;  
2. Use google maps or Waze during the route to be aware of major disruptions, and avoid those;  
3. Know where the traffic jams are, and try to avoid those;  
4. Don’t drive during rush hours.  

**Concerns: Drivers**  
Priority **Medium**  
Connected potential **Medium**

Everyone would be helped with fewer administration. However deciders (responsible for the vehicles) already limit the amount of administration they do. Most only collect fuel receipts and maintenance bills.  

**Concerns: Vehicle managers**  
Priority **Medium**  
Connected potential **Medium**

Some think about the safety (hacking) of connected and their car.  

**Concerns: Everyone**  
Priority **Medium**  
Connected potential **Medium**

When buying a second hand vehicle, trust in the seller and vehicle are the most important aspects.  

**Concerns: Vehicle owners**
The amount of time spent in the vehicle influences the bond a driver has with its vehicle and what activities are done during driving. Drivers that spent many hours in their car and drive long distances, have the need to spend that time usefully by e.g. making phone calls or using the time to relax and listen to a podcast or music.

 Concerns: Drivers
 Priority Low
 Connected potential Medium

Other products and services are used while driving, such as dashcams and Flitsmeister.
 Concerns: Drivers
 Priority Low
 Connected potential Medium

Some respondents would pay up to 20 euro’s for connected. However some would not pay a single euro for connected as it exists today.
 Concerns: Vehicle managers
 Priority Low
 Connected potential Medium

Vehicle maintenance costs a lot of time, therefore maintenance (APK, tires, general maintenance) is combined when possible.
 Concerns: Drivers
 Priority Low
 Connected potential Low

For many drivers it is important that body damage will be repaired, however for most drivers this does not have priority and therefore it is often postponed.
 Concerns: Everyone
 Priority Low
 Connected potential Low

Because lease drivers have to go to listed garages, they experience a lack of control over the maintenance of their vehicle.
 Concerns: Lease drivers
 Priority Low
 Connected potential Low

Replacement vehicles are useful when a vehicle is in maintenance, however not everybody can fully continue their usual daily trips.
 Concerns: Drivers
 Priority Low
 Connected potential Low

Vehicle owners use different ‘maintenance strategies’, ranging from keeping the vehicle as good as possible by doing the maintenance ‘as the booklet’, to keeping the vehicle good enough so it will pass the general periodic inspection [APK].
 Concerns: Vehicle owners
 Priority Medium
 Connected potential Low

Lease drivers have different feelings of responsibility for their vehicle:
1. Some say that the vehicle is not yours and that you have to take care of others’ stuff;
2. Others say that the vehicle is not theirs, so they do not care for it.
 Concerns: Lease drivers
Lease vehicles have some advantages compared to owning vehicles. Two respondents mentioned that they might lease their future vehicles instead of buying them. Only one respondent said that he might want to buy his next vehicle because he would retire soon.

**Concerns: Vehicle managers**

- **Priority**: Low
- **Connected potential**: Low

Some drivers don’t mind driving, and use their time useful or to relax. Other drivers hate driving and do as much as they can to avoid being in their vehicle.

**Concerns: Drivers**

- **Priority**: Low
- **Connected potential**: Low

Drivers that spent many time in their vehicle tend to make use of that time by making phone calls or preparing for work. Or by relaxing with a podcast or music.

**Concerns: Drivers**

- **Priority**: Low
- **Connected potential**: Low
S. Test script

Interview script usability test

Persoonlijke introductie 3 min
- Tijn van Vliet
- Student Technische Universiteit Delft
- Test als onderdeel van afstudeeropdracht voor de ANWB

Introductie
Voordat ik begin met het interview vertel ik de respondent:
- Dat zij niet het onderwerp van de test zijn en niks fout kunnen doen. We testen een idee of een product en willen vooral weten wat wel en niet werkt.
- Dat ze zoveel mogelijk hardop moeten denken en zich volledig vrij moeten voelen om te zeggen wat ze van het idee of product vinden.
- Het interview opgenomen wordt en dat de beelden alleen voor onderzoeksdoeleinden binnen de TU Delft en ANWB gebruikt kunnen worden.

Tekenen opname verklaring
- Ik start nu de opnamen

Achtergrond van de respondent 3 min
Heb je een auto, en waar gebruik je die zoal voor?

Houd je administratie bij voor je auto? Denk aan ritten, tank bonnen, of dergelijks.

Scenario’s en taken
- Eerst krijgen de respondenten een korte introductie over Connected door middel van een video
- Daarna volgt een uitleg van het prototype, waarna ze enkele taken krijgen om uit te voeren.

Introductie ANWB Connected 4 min
Ik laat je eerst even een introductie video zien over wat ANWB Connected is.

Laat introductie video zien: “Haal alles uit je auto met Connected”

Interview script usability test Tijn van Vliet Page 1 of 3
Begrijp je hoe Connected werkt?
Ik ga je zometeen verschillende scenarios voorleggen, ik wil je vragen je in te beelden dat jouw auto dus verbonden is met je telefoon door middel van zo'n dongel.

→ De respondent moet begrijpen dat Connected de auto verbindt met het internet door middel van de dongel.

Verkeersinformatie  X min
Stel, je zit op kantoor en het is bijna het einde van je werkdag en je ziet deze melding. Wat zou je doen?
→ Begrijpt men dat de voorspelling automatisch gegenereerd wordt op basis van rijhistorie?
→ Heeft men behoefte aan waarschuwingen vooraf, en zo ja wordt deze op een juiste manier gepresenteerd?

Bandenspanning  5 min
Stel je stapt 's ochtends je auto in, en je krijgt deze melding. Zou je mij kunnen laten zien en vertellen wat je zou doen?
→ Hoe is de reactie op de melding? Is deze geruststellend en informatief genoeg?
→ Begrijpt men wat het stappen overzicht is, en hoe ze het moeten gebruiken?

Trip log exporteren  X min
Stel je moet voor je werk nog wel eens naar klanten rijden, en je baas wil graag een overzicht van de ritten die je voor deze klant hebt gemaakt hebben. Zou je mij kunnen laten zien hoe je dat zou aanpakken?
→ Begrijpt men dat er labels aan de ritten toegevoegd zitten en dat hierop gesorteerd kan worden?
→ Op welke manier wil men de ritten exporteren?

Accu voorspelling  5 min
Stel je komt op je bestemming aan en ontvangt deze melding. Zou je mij kunnen laten zien wat je zou doen?
→ Vertrouwd men de voorspellingen?

Wegenwacht
Stel, je staat met pech langs de weg. Zou je mij kunnen laten zien en vertellen wat je zou doen?

Brandstof voorspelling
Stel je krijgt deze melding, zou je mij kunnen laten zien wat je zou doen?
→ Wordt de directe selectie van een tankstation gewaardeerd?

Evaluatie
Wat zijn volgens jou sterke en zwakke punten van dit product?

Heb je verder nog opmerkingen?